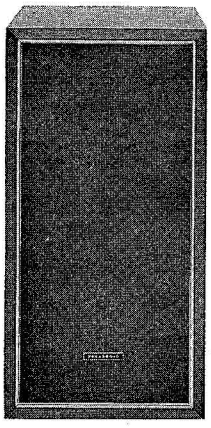
National

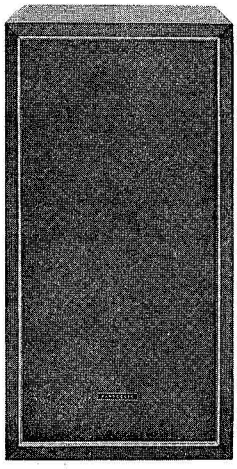
NATIONAL Service Manual

ORDER NO. SD-170

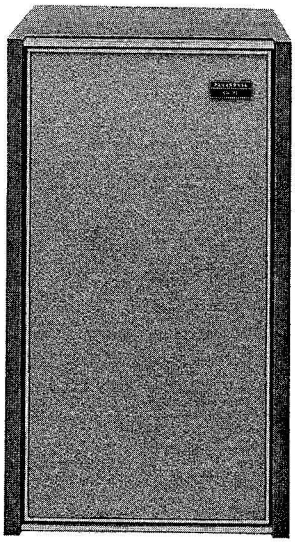
Hi-Fi SPEAKER SYSTEM
MODELS SB-22G, SB-33, SB-77 and SB-88G



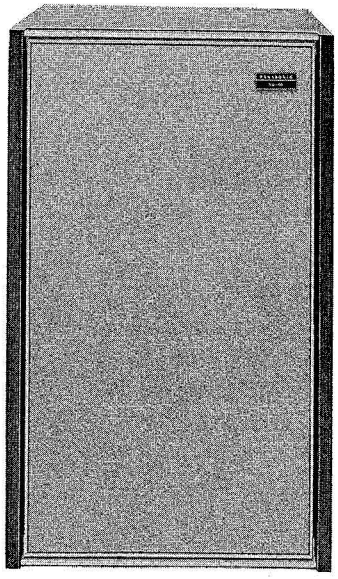
SB-22G



SB-33



SB-77



SB-88G

SPECIFICATIONS

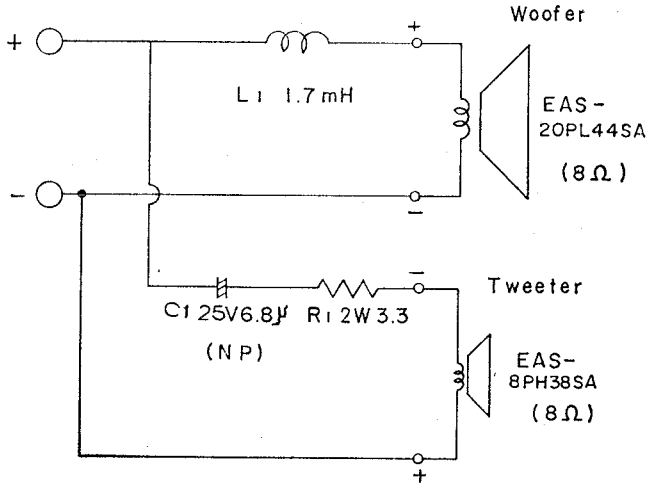
	SB-22G	SB-33	SB-77	SB-88G
Type :	2-way 2-speakers	3-way 3-speakers	3-way 3-speakers	3-way 5-speakers
Speakers : Woofer	8″	10″	10″	12″
	EAS-20PL44SA×1	EAS-25PL19SA×1	EAS-25PL33S×1	EAS-30PL28SA×1
Squawker (Mid-Range)		3½″	5″	5″
		EAS-9PM58SF×1	EAS-12PM47SA×1	EAS-12PM47SB×2
Tweeter	3″	2″	2″	2″
	EAS-8PH38SA×1	EAS-5PH18SC×1	EAS-5PH18SC×1	EAS-5HH39SB×2
Frequency Response :	38～20,000 Hz	30～20,000 Hz	28～21,000 Hz	20～22,000 Hz
Crossover Frequency :	2.5 kHz	1.3 kHz, 6 kHz	800 Hz, 6 kHz	800 Hz, 6 kHz
Input Power :	30 W	40 W	60 W	80 W
Voice Coil Impedance :	8Ω	8Ω	8Ω	8Ω
Cabinet Dimensions :	10¼″×20½″×9¼″	11¾″×22⅞″×11⅜″	13⅛″×23⅝″×11¾″	11/16″×26 11/16″×13⅛″
Weight :	14 lb. 5 oz	20 lb.	32 lb.	48 lb. 8 oz

<EXPORT DIVISION>
MATSUSHITA ELECTRIC TRADING CO., LTD.
P.O. Box 288, Central Osaka, Japan

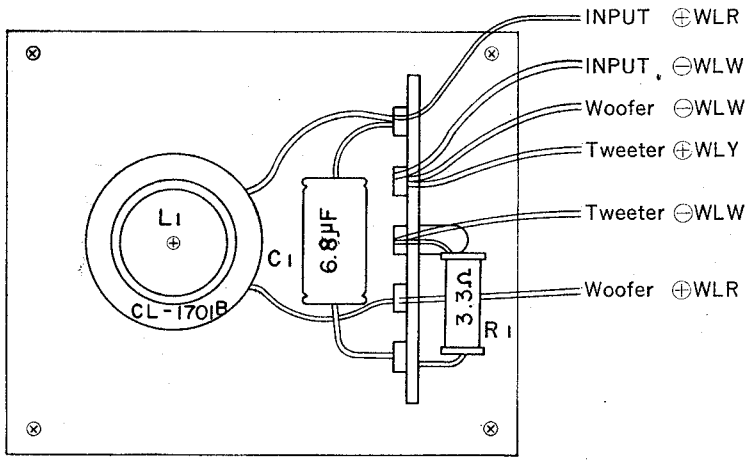
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.
RADIO and STEREO DIVISION

MODEL SB-22G

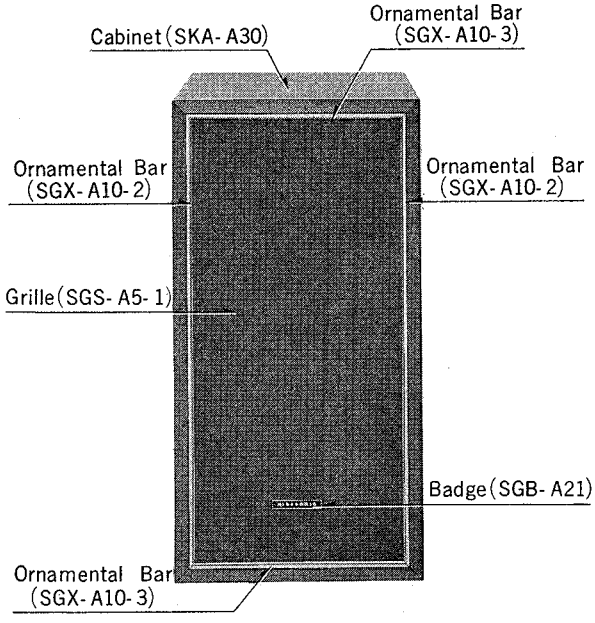
SCHEMATIC DIAGRAM



CIRCUIT NETWORK

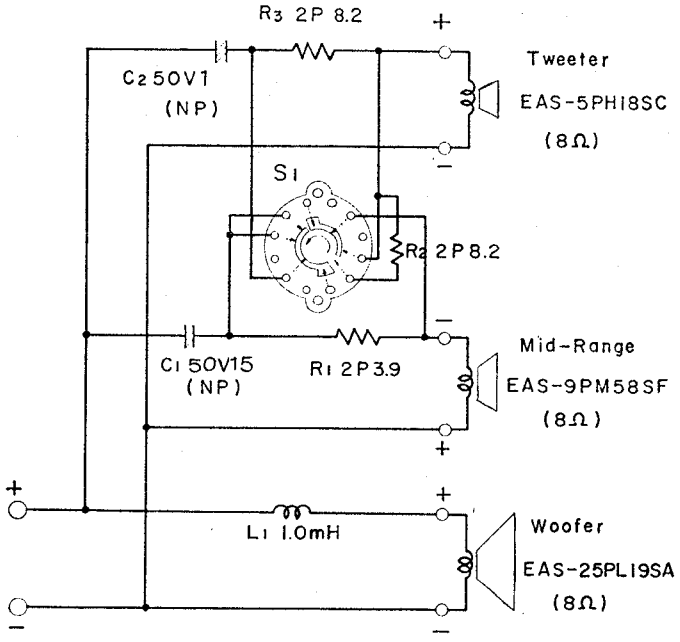


LOCATION OF PARTS



MODEL SB-33

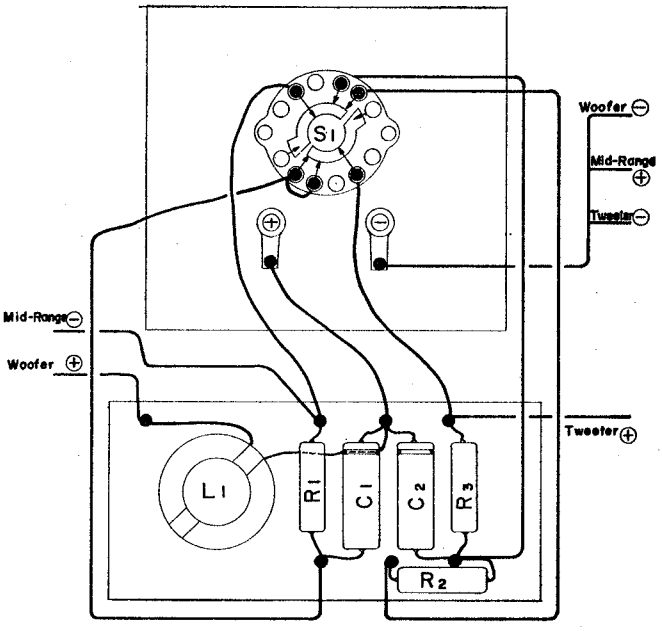
SCHEMATIC DIAGRAM



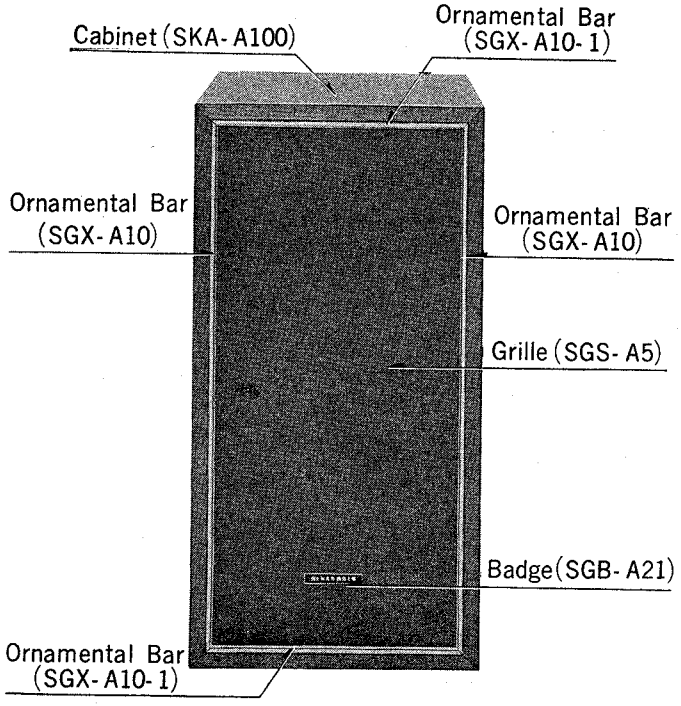
S1 : Mid-Range/Tweeter Now in (DECREASE) Position

DECREASE - NORMAL - INCREASE

CIRCUIT NETWORK

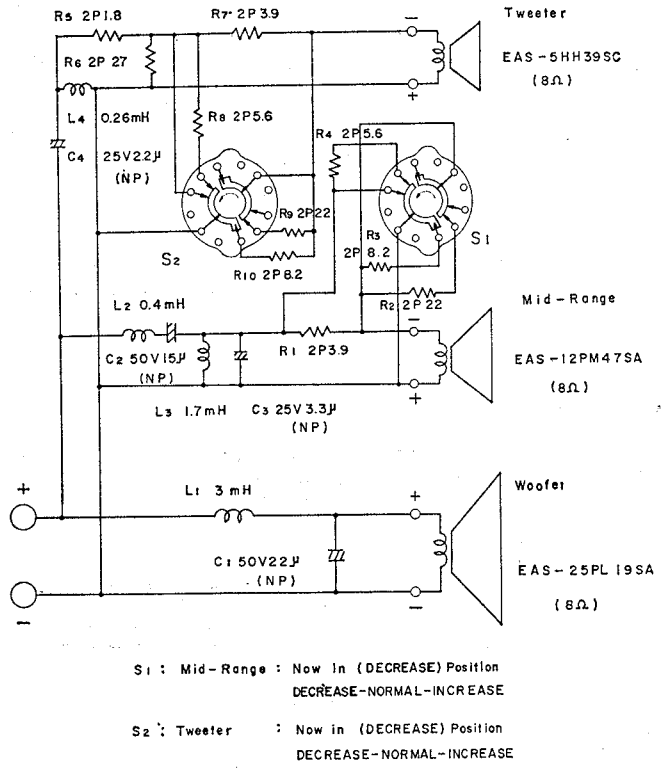


LOCATION OF PARTS



MODEL SB-77

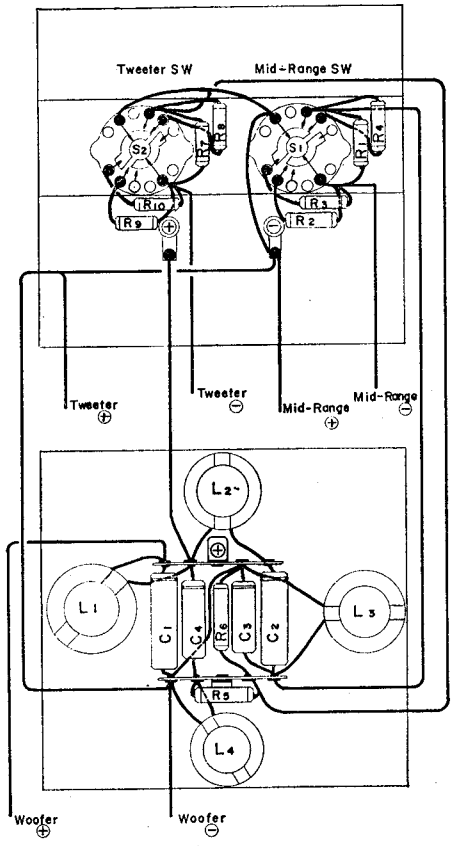
SCHEMATIC DIAGRAM



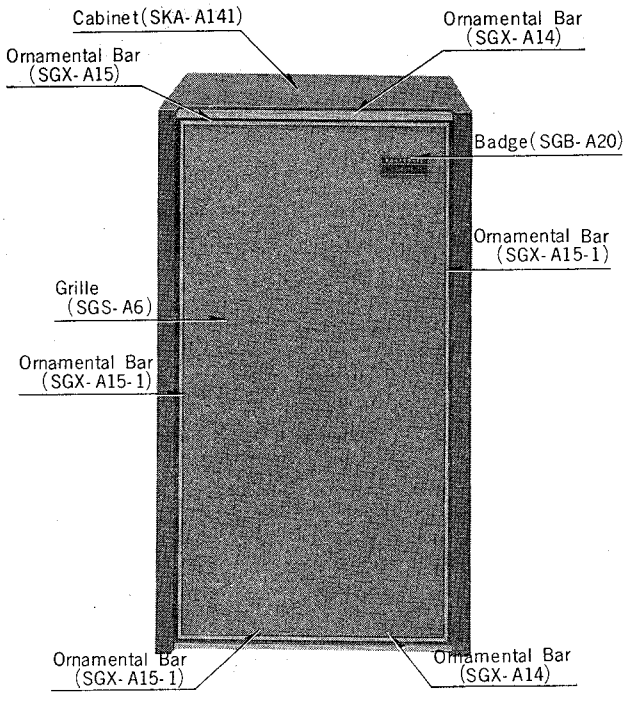
S1 : Mid-Range : Now In (DECREASE) Position
DECREASE-NORMAL-INCREASE

S2 : Tweeter : Now in (DECREASE) Position
DECREASE-NORMAL-INCREASE

CIRCUIT NETWORK

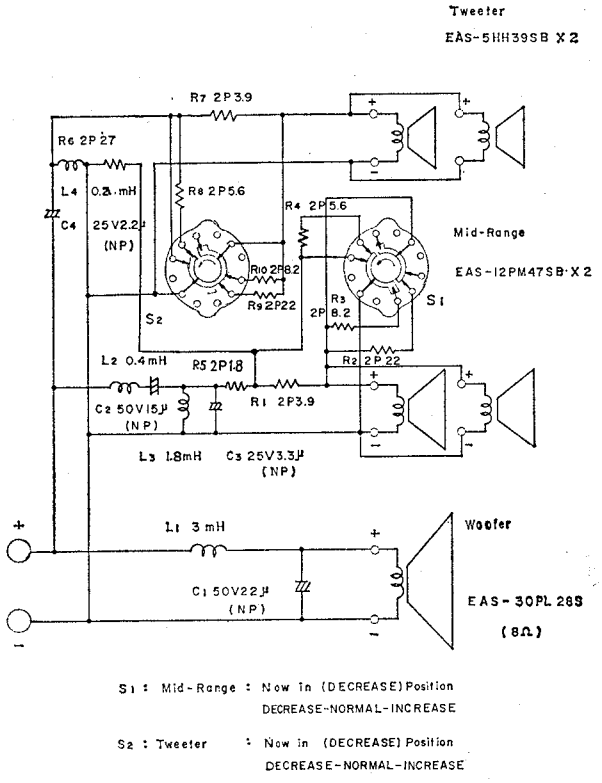


LOCATION OF PARTS



MODEL SB-88G

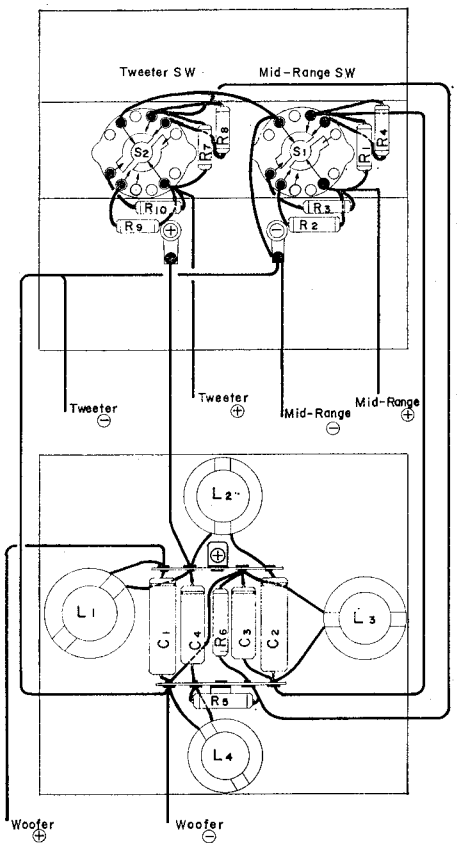
SCHEMATIC DIAGRAM



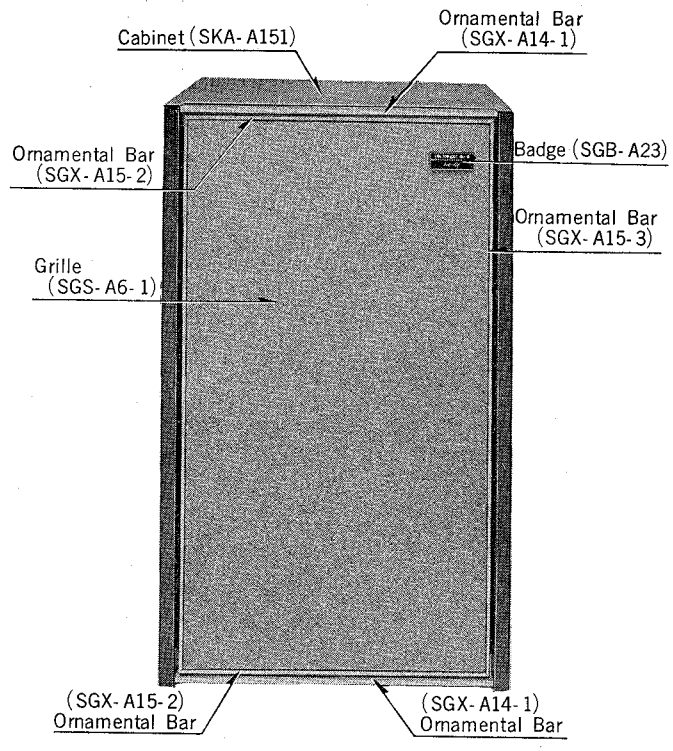
S1 : Mid-Range : Now in (DECREASE) Position
DECREASE-NORMAL-INCREASE

S2 : Tweeter : Now in (DECREASE) Position
DECREASE-NORMAL-INCREASE

CIRCUIT NETWORK

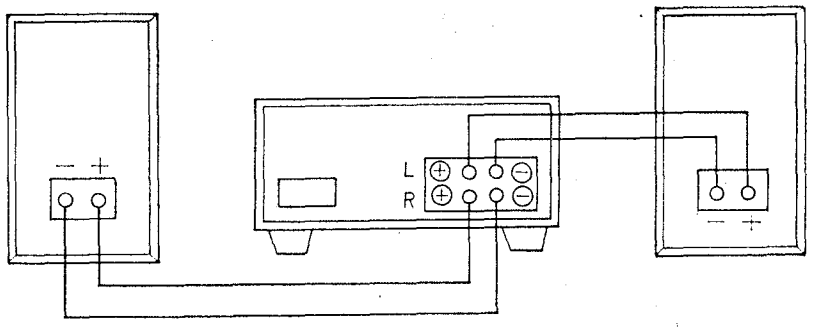


LOCATION OF PARTS



WIRING

* There is fundamentally no difference between the right and left halves of this speaker system. Connect the left speaker system to the Amplifier's Speaker Terminal (L side), and the right speaker system to the Amplifier's Speaker Terminal (R).
* Care should be taken because, if the connecting terminal polarity (+ −) is reversed, it will be out of phase and there will be no stereophonic effect.



Connection Cord

This speaker system is not provided with any Connection Cord.

* Use as thick a wire as possible for the connection between the Speaker and Amplifier because, if it is too small, resistance increases, the Bass Damping doesn't function correctly and the characteristics in the high region naturally deteriorate.
* For connections of 65 ft. or less, ordinary power cord will be adequate.

Replacing the Speakers and Repairing the Circuit Network

Because the Speaker System of this set is the perfect-closure-type (one single unit), it is not possible to remove the bottom plate of the Speaker Cabinet for repairing as could be done with other sets.

Removing the Speaker

1. Remove the baffle plate on front of the Speaker.
   The baffle plate is held by headless nails at 6 points (shown by ○ in Fig. 1) as shown in Fig. 2. When removing, insert appropriate screws at the points (× marks, Fig. 1) where they will be in conspicuous, as shown in Fig. 3, and lift the screw slowly (using a lever) as shown in Fig. 4. The Baffle Plate can then be removed.

* When using a lever in the above work, care should be taken not to scar the trim frame, etc.

(Speaker Cabinet)

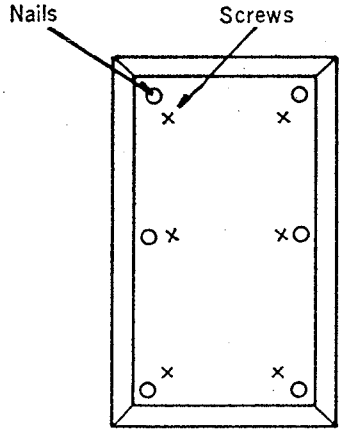


Fig. 1

(Lateral Cross Section of Cabinet)

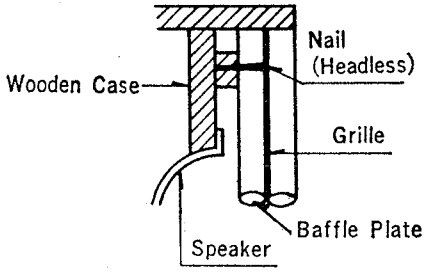


Fig. 2

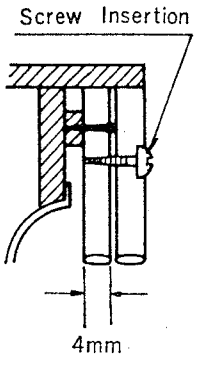


Fig. 3

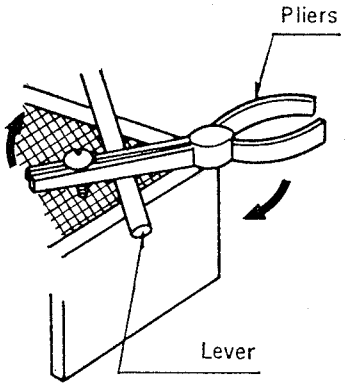


Fig. 4

2. Remove nuts which hold the speaker and dismonut the speaker.
   (Note: The speaker is also fastened with bonding agent so that air does not leak.)
3. When repairing the network circuit. the woofer must be removed beforehand.

Cautions when mounting the Speaker and Baffle Plate

* These parts must be mounted accurately, in order to keep air from leaking out of the space between the speaker and the wooden case.
* The baffle plate must also be mounted accurately.

REPLACEMENT PARTS LIST

Note: 1. ※ indicates parts for complete cabinet which are included when the cabinet is ordered.

Model	SB-22G	SB-33	SB-77	SB-88G
Cabinet	SKA-A130	SKA-A100	SKA-A141	SKA-A151
Ornamental bar	SGX-A10-2	SGX-A10	※ SGX-A14 ※ SGX-A15	※ SGX-A14-1 ※ SGX-A15-2
Ornamental bar	SGX-A10-3	SGX-A10-1	※ SGX-A15-1	※ SGX-A15-3
Grille	SGS-A5-1	SGS-A5	※ SGS-A6	※ SGS-A6-1
Badge	SGB-A21	SGB-A21	SGB-A20	SGB-A23
Name plate	SGT-A351	SGT-A340	SGT-A321	SBT-A370
Speaker (woofer)	EAS-20PL44SA	EAS-25PL19SA	EAS-25PL33S	EAS-30PL28SA
Speaker (mid-range)	———	EAS-9PM58SF	EAS-12PM47SA	EAS-12PM47SB
Speaker (tweeter)	ESA-8PH38SA	EAS-5PH18SC	EAS-5HH39SC	EAS-5HH39SB
Wire wound resistqr	ERM-2P3R3	ERM-2P3R9	ERM-2P1R8	ERM-2P1R8
Wire wound resistor	———	ERM-2P8R2	ERM-2P3R9	ERM-2P3R9
Wire wound resistor	———	———	ERM-2P5R6	ERM-2P5R6
Wire wound resistor	———	———	ERM-2P8R2	ERM-2P8R2
Wire wound resistor	———	———	ERM-2P220	ERM-2P220
Wire wound resistor	———	———	ERM-2P270	ERM-2P270
Electrolytic cap.	ECE-B25Y6R8	ECE-B50Y15	ECE-B25Y2R2	ECE-B25Y2R2
Electrolytic cap.	———	ECE-B50Y1	ECE-B25Y3R3	ECE-B25Y3R3
Electrolytic cap.	———	———	ECE-B50Y15	ECE-B50Y15
Electrolytic cap.	———	———	ECE-B50Y22	ECE-B50Y22
Choke coil	CL-1701B	CL-1001A	CL-201A	CL-201A
Choke coil	———	———	CL-401A	CL-401A
Choke coil	———	———	CL-1801A	CL-1801A
Choke coil	———	———	CL-3001A	CL-3001A
Selector switch	———	ESR-C123L27	ESR-C123L27	ESR-C123L27
Knob	———	SBN-185	SBN-185	SBN-185

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